



# Invasive Plants In Greensboro

Summer 2023

What makes a species  
“invasive”?

*“an **alien** species whose  
introduction does or is likely to  
cause economic or environmental  
**harm** or harm to human health”.*

**— U.S.D.A.**

*“Alien”*  
**or**  
*Non-Native*  
**Species**

“...animals and plants that are introduced accidentally or deliberately into a natural environment where they are not normally found...”

— *The European Commission*

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**Three Types of**  
*“Harm”*  
**Caused by Invasive Species**



## Economic



## Environmental



## Human



*“an **alien** species whose  
introduction does or is likely to  
cause economic or environmental  
**harm** or harm to human health”.*

**— U.S.D.A.**



# Greensboro



## Invasive Plants in Greensboro

Hello, all. My name is William Marlier. I am a member of the Greensboro Conservation Commission, and am participating in the Vermont Council on Rural Development's "Climate Catalyst" program. For this program I have decided to spearhead an Invasive Plant Mapping & Management project here in Greensboro.

The results of this survey will direct the course of this project and provide invaluable information on how the people of Greensboro interact with and think about invasive plant species. It will also indicate which species are already present, and in what amounts. While the initial focus is on identifying the size and scope of invasive infestations here in Greensboro, the information gathered will eventually lead to the development of effective management plans.

Please do not submit more than one form per household, and thank you for participating!



First & Last Name



Short answer



Short answer text



Required



How large is your property (in acres)?

Short answer text

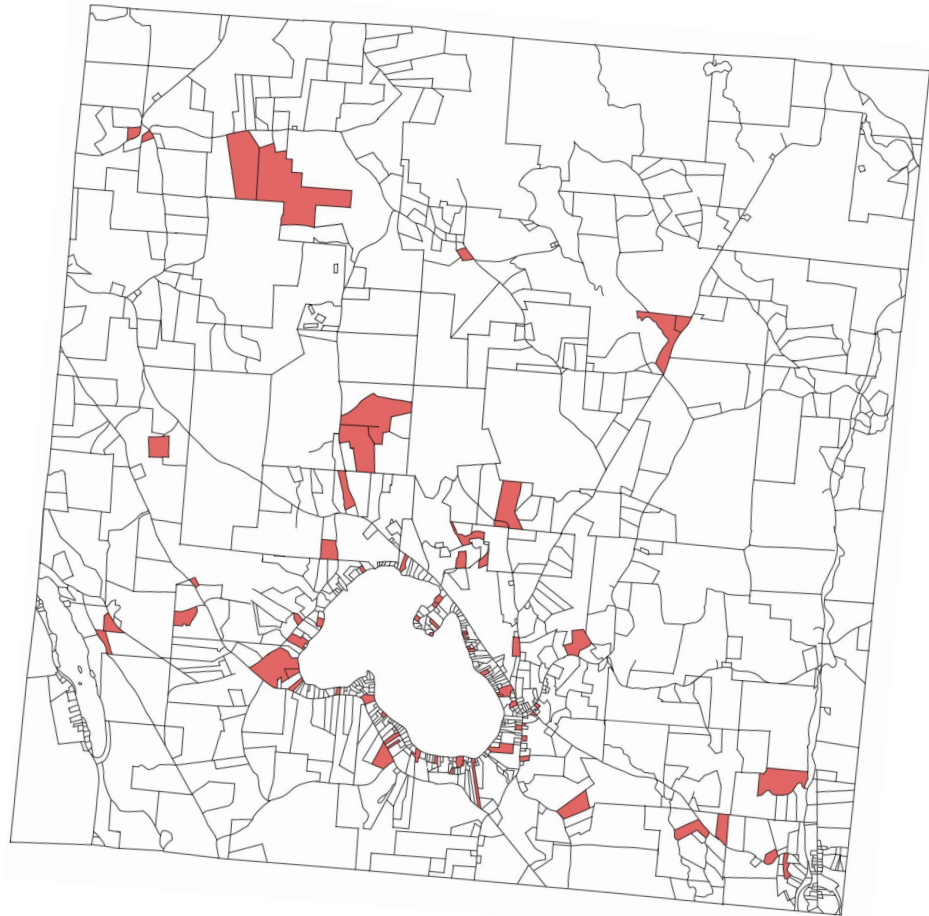
To the best of your knowledge are any of the following invasive plants present on your property?

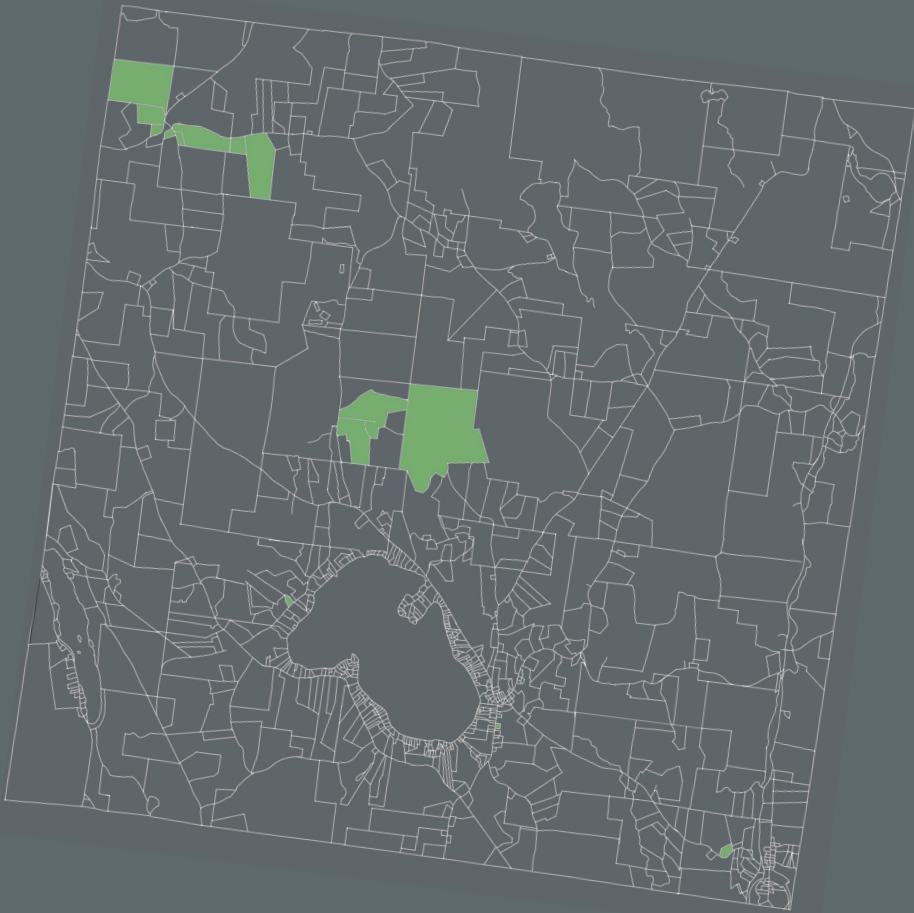
If you are not familiar with any of the following feel free to reference [VT Invasives](#) or simply mark "unsure".

|                | Present               | Unsure                | Non-present           |
|----------------|-----------------------|-----------------------|-----------------------|
| Barberry       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Bittersweet    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Buckthorn      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Common Reeds   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Garlic Mustard | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Giant Hogweed  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

77 Responses

970.14 Acres

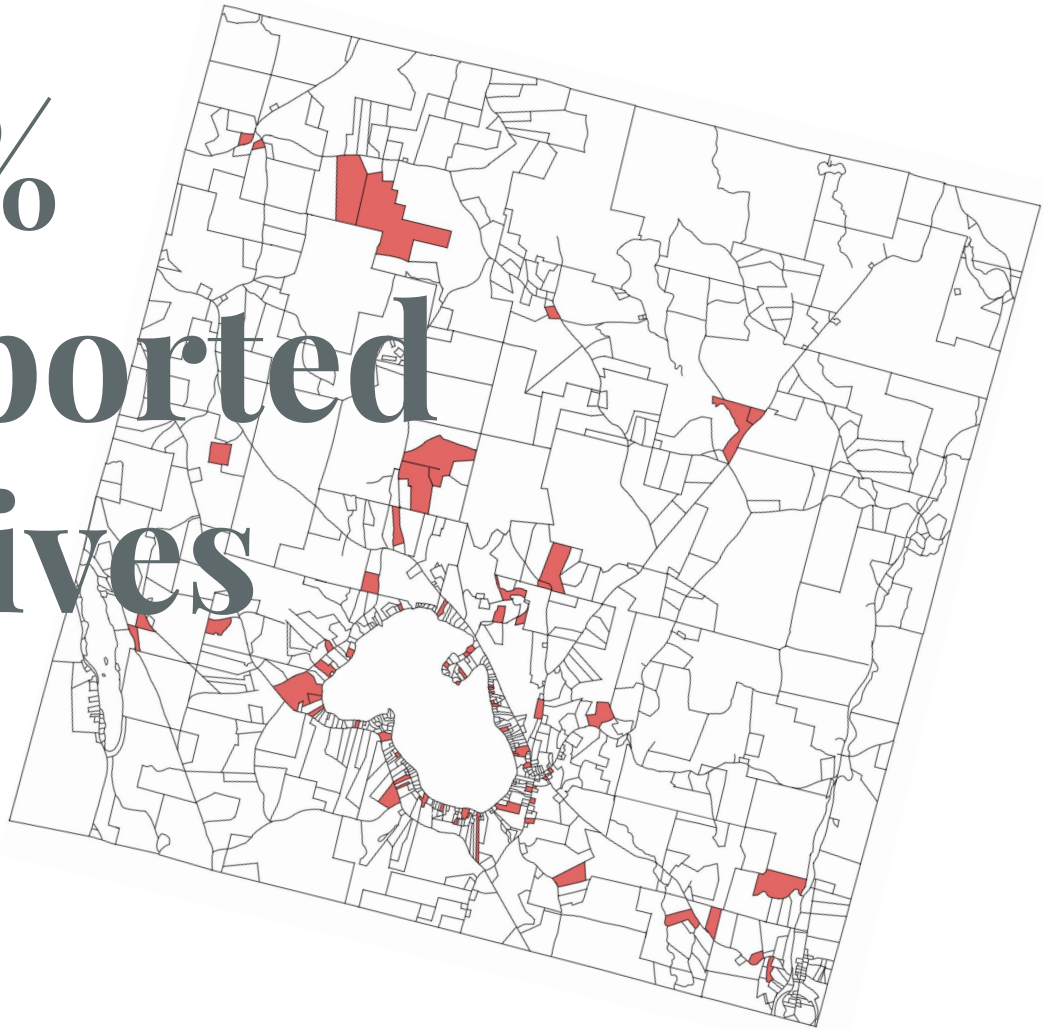




12 Site Visits

~550 Acres

**78%**  
**Self-Reported**  
**Invasives**

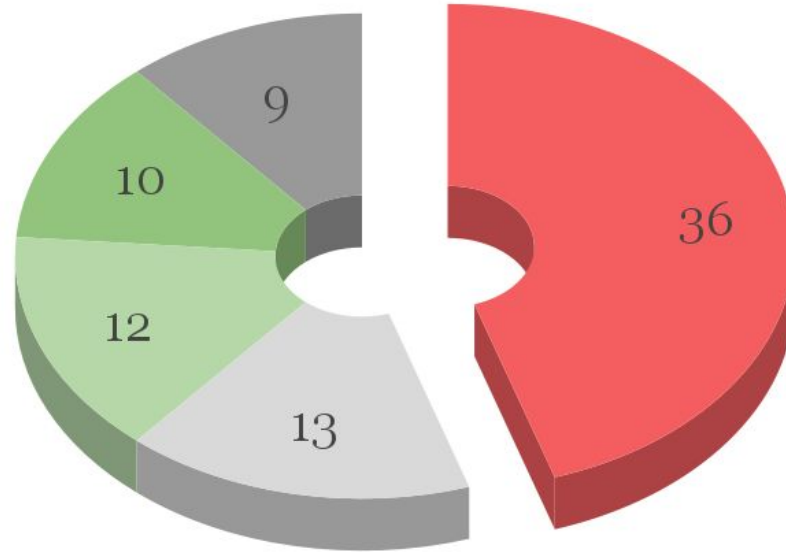




100%  
Site-Confirmed  
Invasives

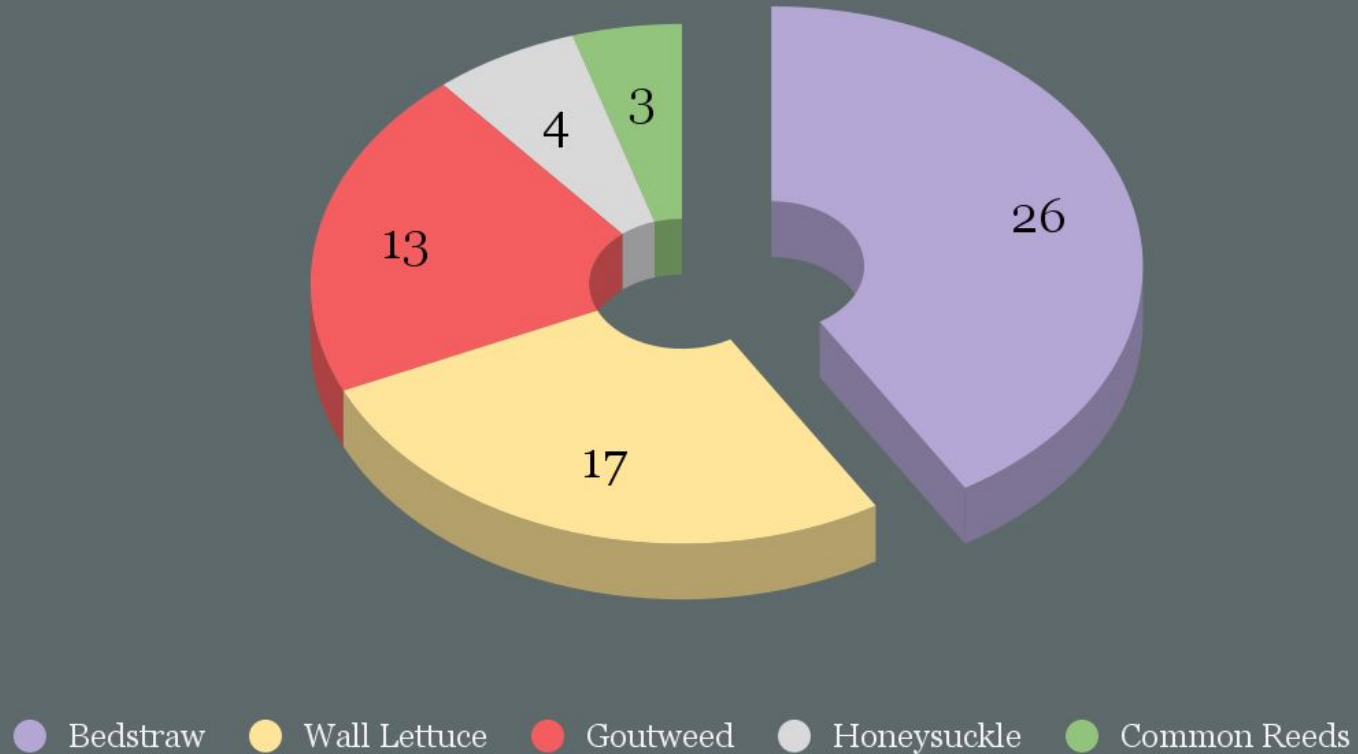


# Species Reported "Present"



- Goutweed / Bishop's Weed
- Honeysuckle
- Knotweed
- Common Reeds
- Garlic Mustard

# Species Confirmed On-Site



Species Specifics



# White or Hedge Bedstraw

*Galium mollugo*



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# Identification of White/Hedge Bedstraw



**Leaves:** Leaves are light green, with 6-8 leaves whorled on the stem—Lanceolate in shape and sessile (attaching to the branches without stalks).

**Flowers:** Small, whitish-green, 4-petaled flowers with four stamens and two styles. Branching inflorescence in a many-flowered panicle (cluster).

**Roots:** Strong, deep taproot and shallow-rooted branching, woody rhizomes. The root system is reddish-orange and the rhizomes are yellow-orange.

# Management of White/Hedge Bedstraw

“Does not pose a significant threat outside of agricultural lands.”

**Pulling:** The plant contains rhizomes capable of vegetative reproduction, so be sure to pull rhizomes along with the rest of the root structure. Bag rhizomes to prevent reestablishment.

**Mowing:** These seeds do not persist in the soil, so mowing will stress plants, preventing further seed generation or spread.

**Tilling:** Large-scale infestations may warrant tilling, which can then be seeded with a native species.



# Goutweed or Bishop's Weed

*Aegopodium podagraria*



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**Variegated**



**Non-Variegated**

# Identification of Goutweed / Bishop's Weed



This plant can grow to be 15 to 40 inches tall.

**Leaves:** Most leaves are basal, with the leafstalk attached to an underground stem, or rhizome. The leaves are divided into three groups of three leaflets, making it "triternate." The leaflets are toothed and sometimes irregularly lobed.

**Flowers:** The white flowers are arranged in umbels that are 2.25-4.75 inches in diameter. Each umbel is borne on a long peduncle, and has 15-25 rays that are about 1 inch or more in length. Flowers appear in June.



# Management of Goutweed / Bishop's Weed

**Pulling:** The plant contains rhizomes capable of vegetative reproduction, so be sure to pull rhizomes along with the rest of the root structure. Bag rhizomes to prevent reestablishment.

**Mowing:** Mowing will stress plants, preventing further seed generation or spread.

**Covering:** Seedbanks only last 1-2 years, so covering an infestation with black plastic or tarping for 1-2 year can prevent regrowth. (For best results cut prior to coverage.)





Species of Special Concern

# Honeysuckle

*Lonicera sp.*



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# Identification of Honeysuckle Shrubs



All invasive species of honeysuckle have a hollow pith, while native species do not.

**Leaves:** Are opposite, egg-shaped, and deciduous.

**Flowers:** From early to late May until early June, depending on location. Flowers are white, pink, or red, and are borne in pairs at the nodes along the stem. Flowers are generally less than 1 inch long, fragrant, tubular, two-lipped and five-lobed.

**Fruit:** Each plant produces thousands of red/orangish berries as fruit, and each fruit contains 2-6 seeds. Seeds can remain viable for 3-5 years.



# Management of Honeysuckle Shrubs

**Pulling:** Best done when the ground is wet and soft, smaller plants can be pulled by hand while larger plants require wrenching tools.

**Cutting:** Should be done in the fall or winter once leaves have dropped. Cut close to the ground and cover the stump with black plastic or tarp, tied tightly. Cut back any additional growth in the spring.





# Wall Lettuce

*Mycelis muralis*



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# Identification of Wall Lettuce



This plant can grow to be 2-3 feet tall.

**Leaves:** Basal and lower stem leaves are 2.5-7 inches long, 1-3 inches wide, glabrous and deeply lobed, with broad, terminal segments.

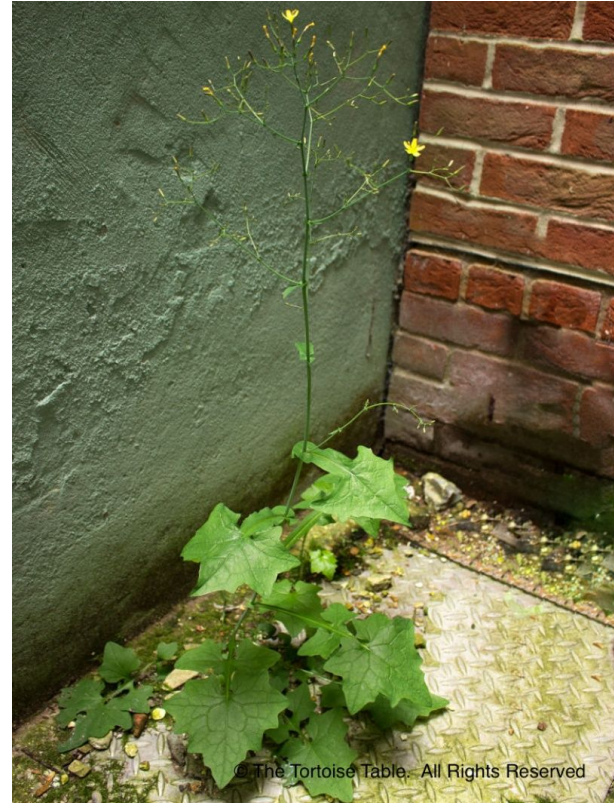
**Flowers:** Each flower head is comprised of 5 yellow, strap-shaped ray florets.

# Management of Wall Lettuce

Wall lettuce reproduces *exclusively* by seed, meaning that it is incapable of rhizomal propagation.

However, a single plant can produce up to **11,500 seeds per season**. It is vital to manage populations before they become well established.

**Pulling:** Due to its shallow root systems and lack of rhizomes, Wall Lettuce can be pulled by hand without much effort. Pulled plants can be left on-site to dry and rot.





Species of Special Concern

# Japanese Knotweed

*Fallopia japonica*



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# Identification of Japanese Knotweed



This plant can grow to be over 10 feet tall.

**Leaves:** Although leaf size may vary, they are normally about 6 inches long by 3 to 4 inches wide, broadly oval to somewhat triangular and pointed at the tip.

**Flowers:** The minute greenish-white flowers occur in attractive, branched sprays in late summer.



# Management of Japanese Knotweed

## The **Bad** News

- Up to 2/3 two thirds of the mature plant's biomass is stored underground in its system of rhizomes, which can extend up to 6 feet subterraneously.
- While studies are inconclusive, it is estimated that seeds remain viable for up to 15 years.
- Japanese Knotweed is aggressively allelopathic, meaning it exudes chemicals that inhibit the growth of neighboring plants.



- Fragments of **both** root and stem are capable of sprouting new plants.
- There is no single recommended method of management.

# Management of Japanese Knotweed

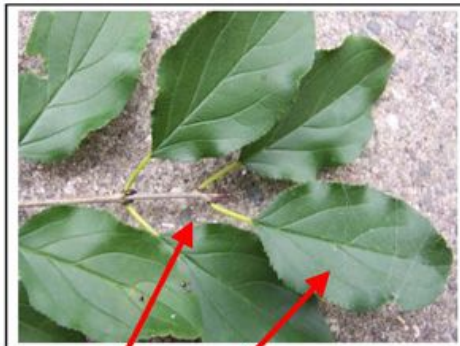
## The Good News

We have plenty of it to practice on!



# Honorable Mentions

Common Buckthorn  
(most common)



Glossy leaves with deep, prominent leaf veins. Leaf edged with small teeth

Leaves almost directly across from each other, thorn at tip of twig

Glossy Buckthorn  
(wet areas)



Similar to Common Buckthorn, leaves extremely glossy with deep veins and leaf margin is smooth, without teeth



## Glossy Buckthorn & Common Buckthorn

*(Frangula alnus & Rhamnus cathartica)*

## Burning Bush

*(Euonymus alatus)*

# Tools & Resources



# Vermont Invasives

[vtinvasives.org](http://vtinvasives.org)



## Invasive species

Pose A Serious Threat To Vermont Communities.

Become part of the solution: Learn, Get Involved, Make a Difference.

### QUICK LINKS



Gallery of

**Aquatic Invaders**



Gallery of

**Forest Pests**



Gallery of

**Terrestrial Plants**

**EMERALD ASH BORER IN  
VERMONT**

### HOW YOU CAN HELP

Think you found an invasive plant or tree pest?

**REPORT IT!**

### INVASIVES IN THE NEWS



5480514

**First Confirmation of Invasive Mile-a-Minute Weed in Vermont**

October 18, 2023

**First Confirmation of Beech Leaf Disease in Vermont**

October 17, 2023

[See more news](#)

### MAKE A DIFFERENCE



**Elm Zigzag Sawfly Confirmed in Vermont**

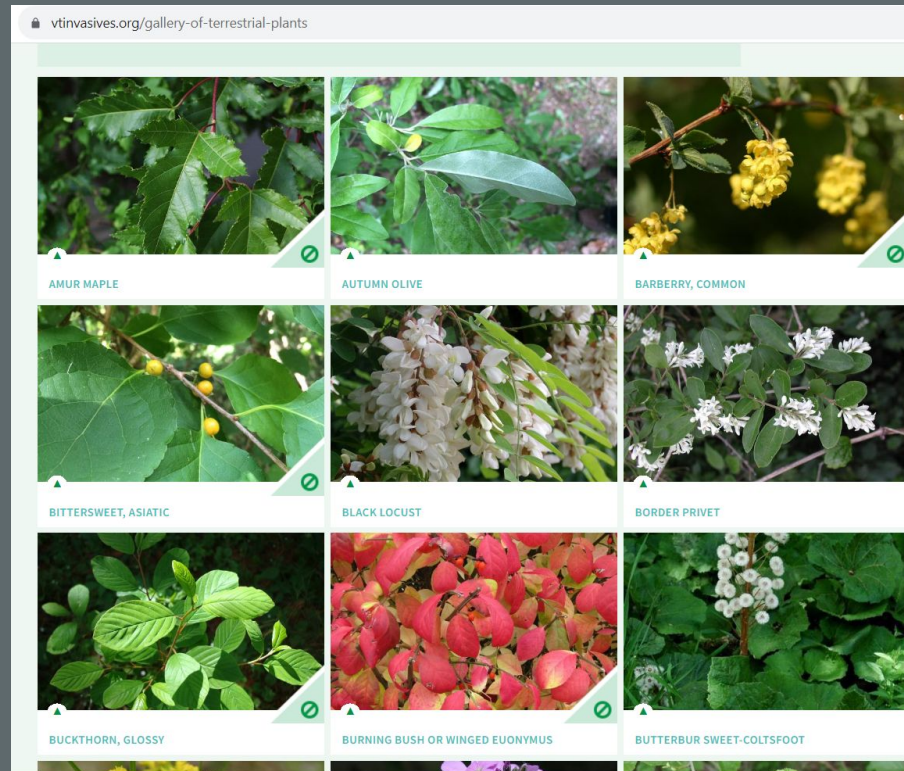
[LEARN MORE](#)

541098



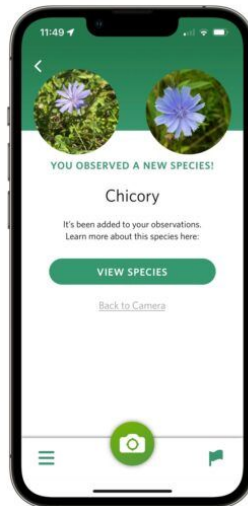
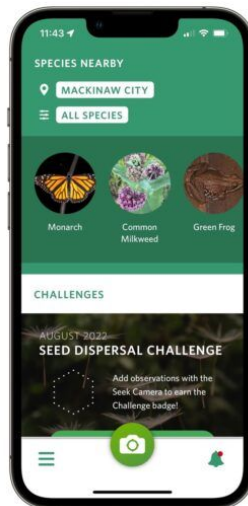
49 Terrestrial  
Plant Species

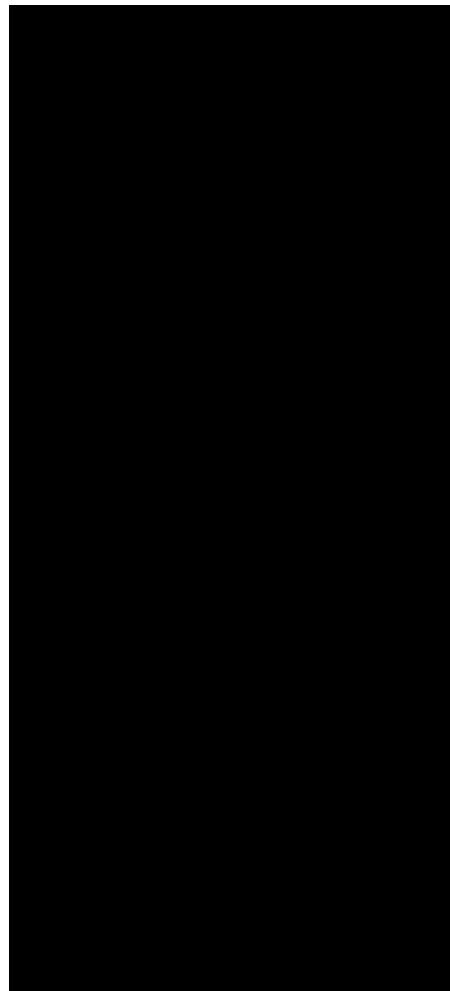
87 Total  
Invasive Species



# seek

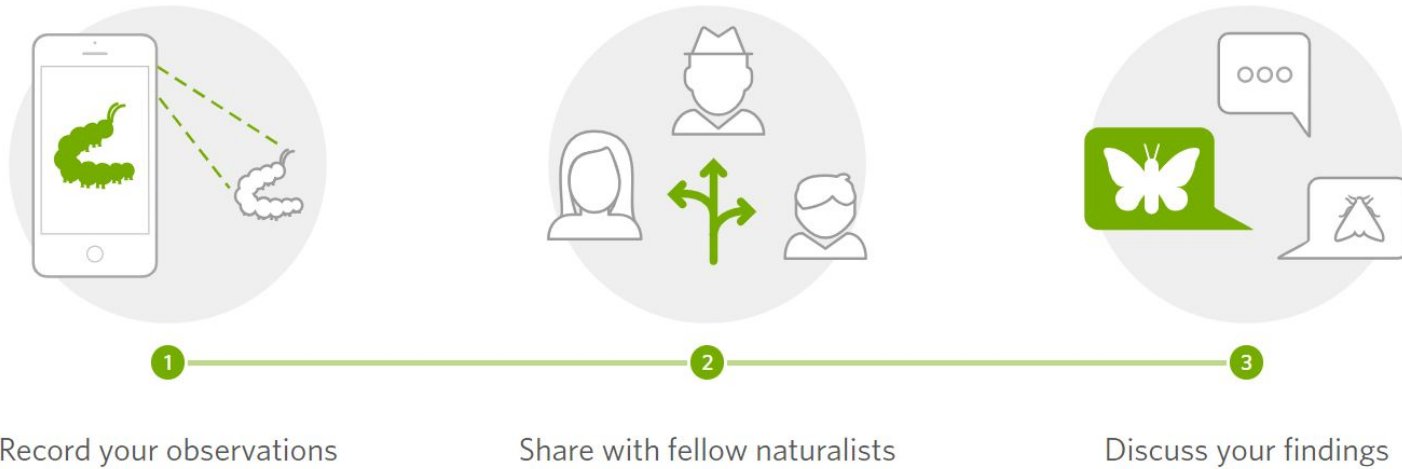
by iNaturalist





# iNaturalist

## How It Works





Greensboro

1,977  
OBSERVATIONS

765  
SPECIES

614  
IDENTIFIERS

199  
OBSERVERS

Map

Grid

List

Layers

Places of Interest

Redo search in map

Redo search in map

14 CRAFTSBURY COMMON



Craftsbury

14

Greensboro

The Museum of Everyday Life

16

122



Oil Beetles

(Genus *Meloe*)

Shadow Lake Rd, Cr... • Oct 13, 2023

2 9d



Plusiine Looper Moths

(Subfamily Plusiinae)

Taylor Rd, Greensb... • Oct 12, 2023

1 10d



Unknown

Garvin Hill Rd, Gr... • Oct 12, 2023

10d



Northern Amber Bumble Bee

(*Bombus borealis*)

Taylor Rd, Greensb... • Oct 12, 2023

Research Grade 3 10d



Northern Two-lined Salamander

Map Legend

Hardwick

Stannard

Keyboard shortcuts

Map data ©2023 Imagery ©2023 TerraMetrics

2 km



Greensboro

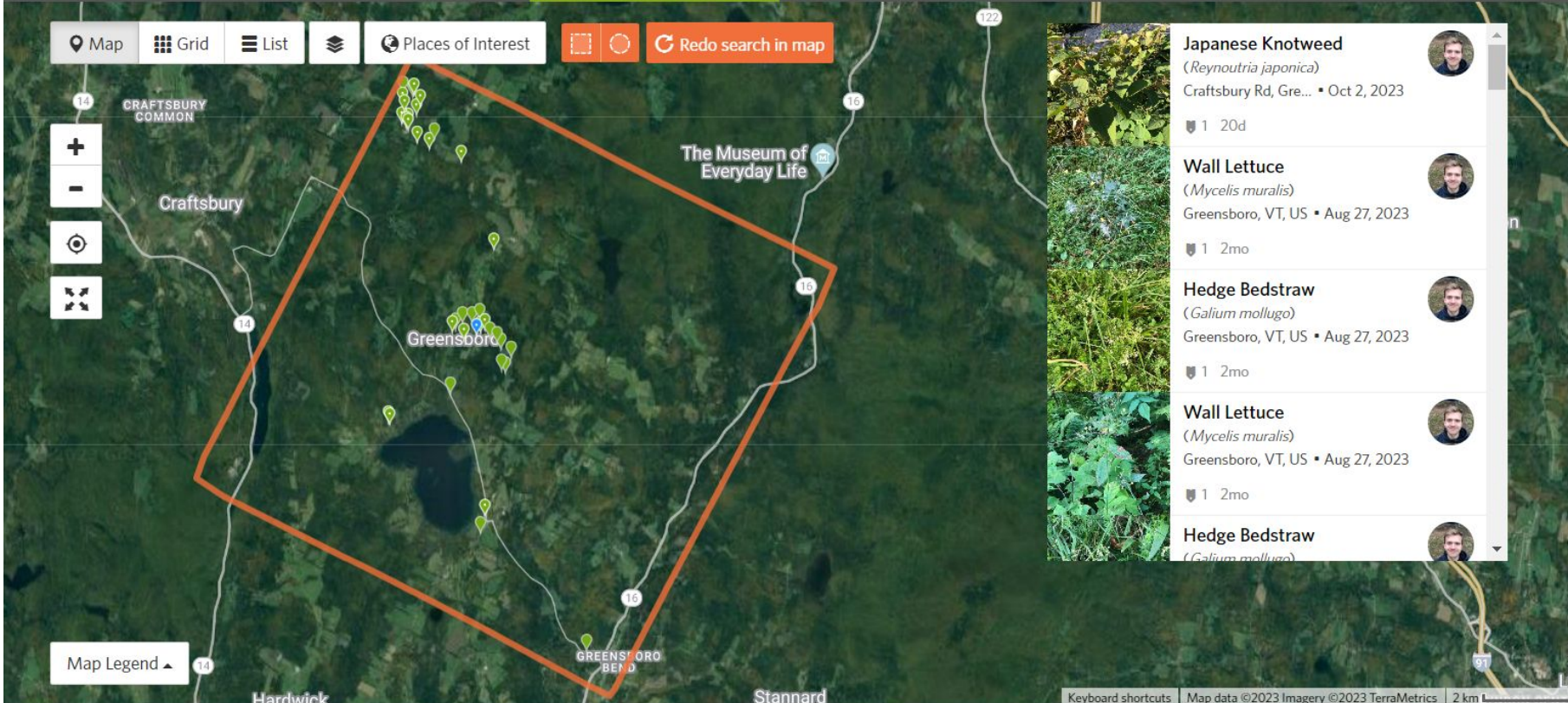
76  
OBSERVATIONS

16  
SPECIES

19  
IDENTIFIERS

1  
OBSERVER

Map Grid List Places of Interest Redo search in map



- Japanese Knotweed**  
(*Reynoutria japonica*)  
Craftsbury Rd, Gre... • Oct 2, 2023  
1 20d
- Wall Lettuce**  
(*Mycelis muralis*)  
Greensboro, VT, US • Aug 27, 2023  
1 2mo
- Hedge Bedstraw**  
(*Galium mollugo*)  
Greensboro, VT, US • Aug 27, 2023  
1 2mo
- Wall Lettuce**  
(*Mycelis muralis*)  
Greensboro, VT, US • Aug 27, 2023  
1 2mo
- Hedge Bedstraw**  
(*Galium mollugo*)

Map Legend

Greensboro

19  
OBSERVATIONS

1  
SPECIES

8  
IDENTIFIERS

4  
OBSERVERS

Map

Grid

List

Places of Interest

Redo search in map

CRAFTSBURY COMMON

Craftsbury

The Museum of Everyday Life

Greensboro

GREENSBORO BEND

Map Legend



Wall Lettuce

(*Mycelis muralis*)  
Greensboro, VT, US • Sep 11, 2023

Research Grade 2 1mo



Wall Lettuce

(*Mycelis muralis*)  
Greensboro, VT, US • Aug 27, 2023

1 2mo



Wall Lettuce

(*Mycelis muralis*)  
Greensboro, VT, US • Aug 27, 2023

1 2mo



Wall Lettuce

(*Mycelis muralis*)  
Barr Hill Rd, Gree... • Aug 27, 2023

Research Grade 2 2mo



Wall Lettuce

(*Mycelis muralis*)



## ✔ Data Quality Assessment ?

Quality Grade: Research

The Quality Grade summarizes the accuracy, precision, completeness, relevance, and appropriateness of an iNaturalist observation as biodiversity data. Some attributes are automatically determined, while others are subject to a vote by iNat users. iNaturalist shares licensed "Research Grade" observations with a number of data partners for use in science and conservation.

| Research Grade Qualification   | Yes   | No  |
|--|---|---|
|  Date specified   | ✔   |   |
|  Location specified   | ✔   |   |
|  Has Photos or Sounds   | ✔   |   |
|  Has ID supported by two or more  | ✔   |   |
|  Date is accurate   | ✔  |  |
|  Location is accurate   | ✔  |  |
|  Organism is wild   | ✔  |  |
|  Evidence of organism   | ✔  |  |
|  Recent evidence of an organism   | ✔  |  |
|  Community Taxon at species level or lower                                      | ✔   |   |
|  Based on the evidence, can the Community Taxon still be confirmed or improved? |   |   |
| <input type="checkbox"/> Yes   | <input type="checkbox"/> No, it's as good as it can be                              |   |



This observation is Research Grade! It can now be used for research and featured on other websites

This observation is featured on 1 site



GBIF

# Misc. Resources

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- Vermont Invasives — [www.vtinvasives.org](http://www.vtinvasives.org)
- iNaturalist — [www.inaturalist.org](http://www.inaturalist.org)
- National Invasives Species Information Center — [www.invasivespeciesinfo.gov](http://www.invasivespeciesinfo.gov)
- Center for Invasive Species and Ecosystem Health — [www.invasive.org](http://www.invasive.org)
- U.S. Fish & Wildlife Services — [www.fws.gov/program/invasive-species](http://www.fws.gov/program/invasive-species)
- Me! — [will.s.marlier@gmail.com](mailto:will.s.marlier@gmail.com)